

GENERAL DESCRIPTION

STARTING/CHARGING SYSTEMS

1. General Description

A: SPECIFICATIONS

1. NON-TURBO MODEL

Item		Designation		
Starter		Reduction type		
Vehicle model	MT vehicles	AT vehicles		
Model	M000T83981	M000T86481		
Manufacturer			Mitsubishi Electric	
Voltage and output	12 V — 1.0 kW	12 V — 1.4 kW		
Direction of rotation			Counterclockwise (when observed from pinion)	
Number of pinion teeth	8	9		
No-load characteristics	Voltage	11 V		
	Current	90 A or less		
	Rotating speed	2,800 rpm or more	2,400 rpm or more	
Load characteristics	Voltage	7.5 V	7.7 V	
	Current	300 A	400 A	
	Torque	8.6 N·m (0.88 kgf-m, 6.3 ft-lb) or more	16.0 N·m (1.63 kgf-m, 11.8 ft-lb) or more	
Lock characteristics	Rotating speed	920 rpm or more	740 rpm or more	
	Voltage	4 V	3.5 V	
	Current	650 A or less	940 A or less	
Generator	Torque	14.7 N·m (1.50 kgf-m, 10.8 ft-lb) or more	28.9 N·m (2.95 kgf-m, 21.3 ft-lb) or more	
	Type	Rotating-field three-phase, voltage regulator built-in type, with load response control system		
	Model	A2TB6291		
Manufacturer		Mitsubishi Electric		
Voltage and output		12V — 90A		
Polarity on ground side		Negative		
Direction of rotation		Clockwise (when observed from pulley side)		
Armature connection		3-phase Y-type		
Output current		1,500 rpm — 36 A or more 2,500 rpm — 65 A or more 5,000 rpm — 86 A or more		
Regulated voltage		14.1 — 14.8 V [20°C (68 °F)]		

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2. TURBO MODEL

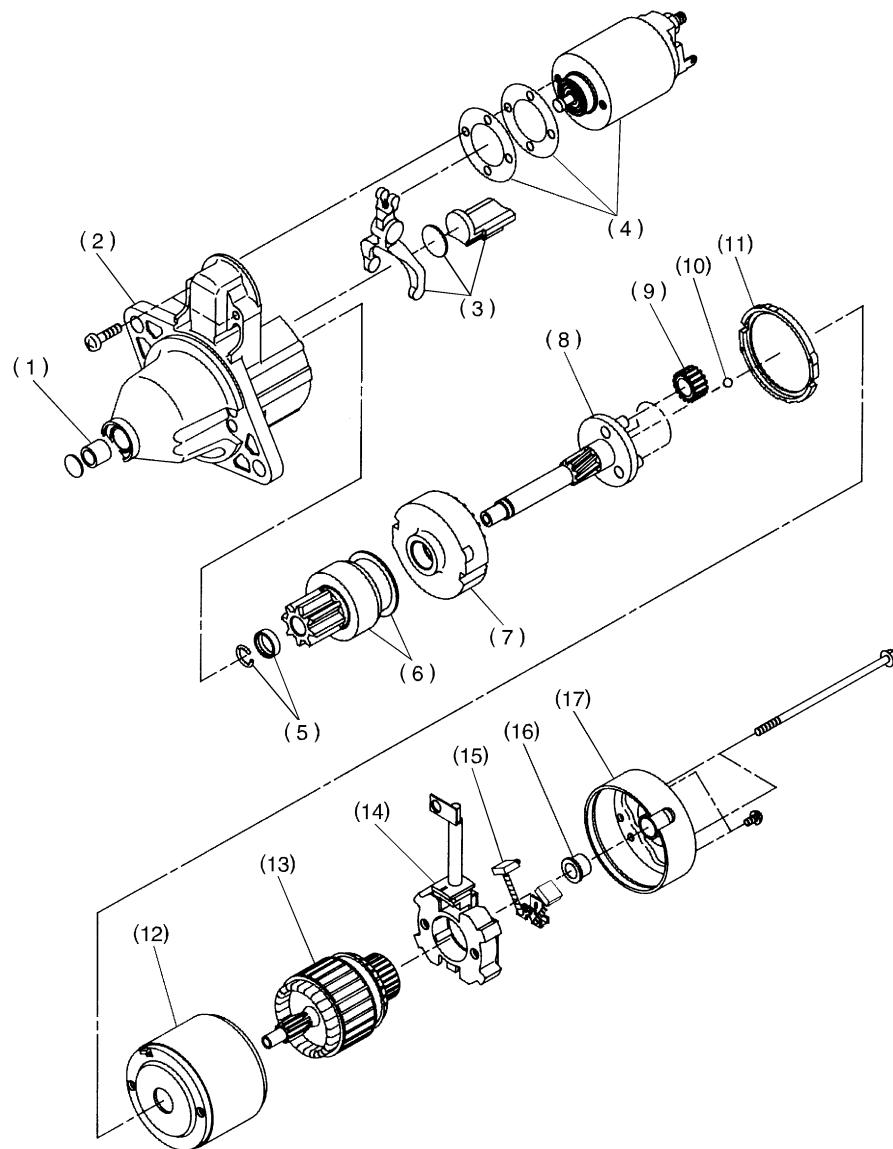
Item		Designation			
Type	Reduction type				
Vehicle type	MT vehicles	AT vehicles			
Type	228000 — 9270	M001T86381			
Manufacturer	DENSO	Mitsubishi Electric			
Voltage and output	12 V — 1.0 kW	12 V — 1.4 kW			
Direction of rotation	Counterclockwise (when observed from pinion)				
Number of pinion teeth	9				
Starter	Voltage	11 V			
	Current	90 A or less			
	Rotating speed	2,860 rpm or more	2,400 rpm or more		
Load characteristics	Voltage	8 V	7.7 V		
	Current	280 A	400 A		
	Torque	9.3 N·m (0.95 kgf-m, 6.9 ft-lb) or more	16.0 N·m (1.63 kgf-m, 11.8 ft-lb) or more		
Lock characteristics	Rotating speed	860 rpm or more	740 rpm or more		
	Voltage	5 V	3.5 V		
	Current	515 A or less	940 A or less		
Generator	Torque	16 N·m (1.63 kgf-m, 11.8 ft-lb) or more	28.9 N·m (2.95 kgf-m, 21.3 ft-lb) or more		
	Type	Rotating-field three-phase, voltage regulator built-in type, with load response control system			
	Type	A2TB6291			
Manufacturer	Mitsubishi Electric				
Voltage and output	12 V — 75 A				
Polarity on ground side	Negative				
Direction of rotation	Clockwise (when observed from pulley side)				
Armature connection	3-phase Y-type				
Output current	1,500 rpm — 30 A or more				
	2,500 rpm — 64 A or more				
	5,000 rpm — 76 A or more				
Regulated voltage	14.1 — 14.8 V [20 °C (68 °F)]				

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B: COMPONENT

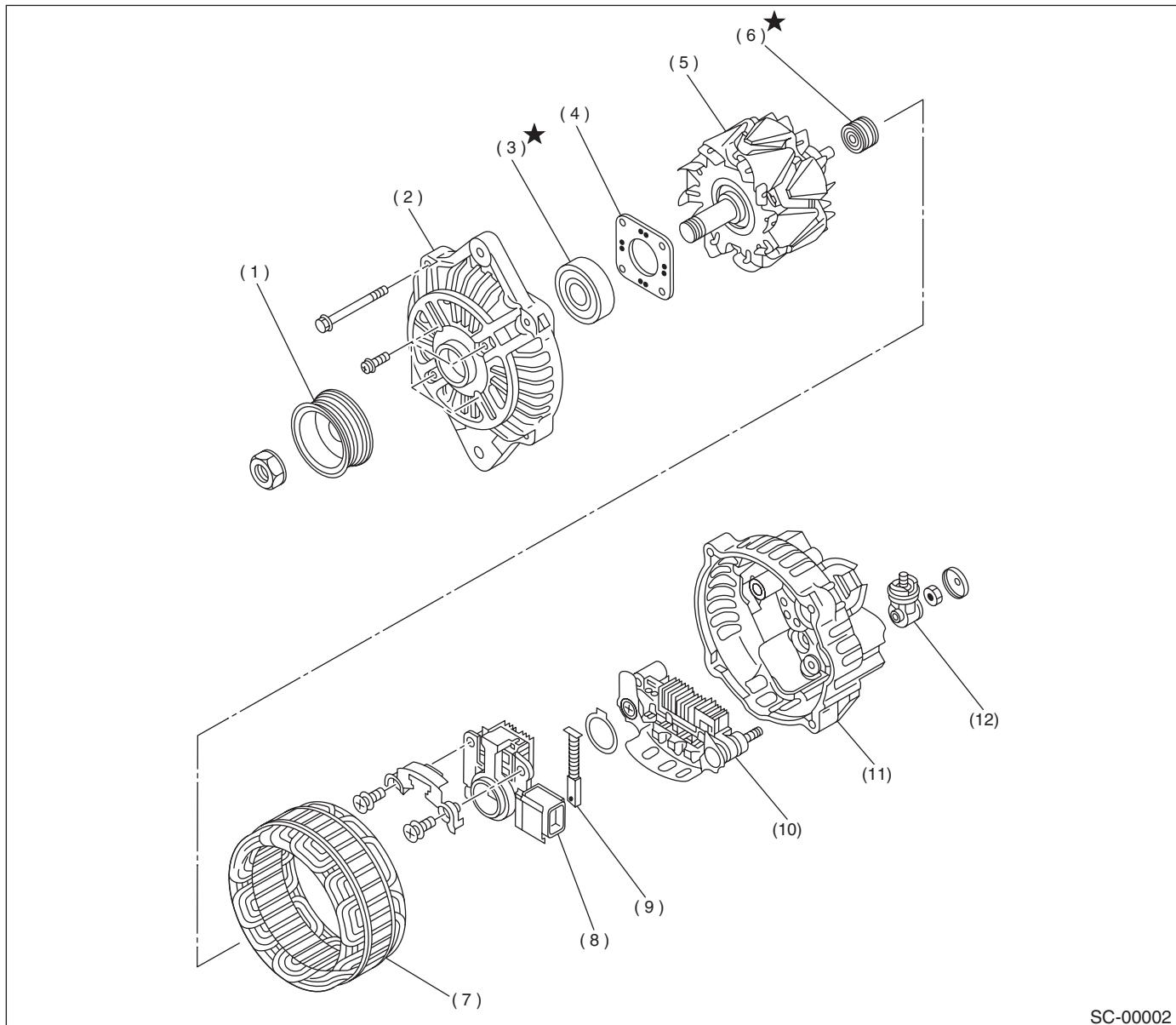
1. STARTER



SC-00168

(1) Sleeve bearing	(7) Internal gear assembly	(13) Armature
(2) Front bracket	(8) Shaft assembly	(14) Brush holder assembly
(3) Lever set	(9) Gear assembly	(15) Brush
(4) Magnet switch assembly	(10) Ball	(16) Sleeve bearing
(5) Stopper set	(11) Packing	(17) Rear bracket
(6) Overrunning clutch	(12) Yoke assembly	(18) Rear cover set

2. GENERATOR



- (1) Pulley
- (2) Front cover
- (3) Ball bearing
- (4) Bearing retainer

- (5) Rotor
- (6) Bearing
- (7) Stator coil
- (8) IC regulator with brush

- (9) Brush
- (10) Rectifier
- (11) Rear cover
- (12) Terminal

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C: CAUTION

- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly, and replacement.
- Be careful not to burn your hands, because each part on the vehicle is hot after running.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or safety stands at the specified points.
- Before disconnecting electrical connectors of sensors or units, be sure to disconnect the ground cable from battery.